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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/554,148	10/21/2005	Olivier Breguet	NITROS P174US	3255
20210 7590 11/08/2007 DAVIS BUJOLD & Daniels, P.L.L.C. 112 PLEASANT STREET CONCORD, NH 03301			EXAMINER BASHAW, HEIDI M	
			ART UNIT 4138	PAPER NUMBER
			MAIL DATE 11/08/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

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Office Action Summary	Application No. 10/554,148	Applicant(s) BREGUET, OLIVIER	
	Examiner Heidi M. Bashaw	Art Unit 4138	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 October 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 21 October 2005 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10/21/2005</u> | 6) <input type="checkbox"/> Other: _____ |

Drawings

1. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the non-working sections and working sections must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 15-18 and 24-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton 1,198,690 in view of Johnson 6,074,209.
4. Re claim 15, Barton teaches an instrument for drilling designed to be mechanically driven by an electric motor, the instrument comprising an end section to be mounted in a chuck driven by the electric motor, a proximal region and a distal region extending from the central region for guiding the instrument, an envelope comprising the proximal, central and distal region and a smallest portion corresponding to the proximal region as illustrated in fig. 2.
5. Barton does not teach a flexible drilling instrument.
6. Johnson teaches a flexible drilling instrument (col. 1, l. 40.)
7. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Barton in view of Johnson in order to adapt the file to root canals and to avoid file breakage during the cleaning process as taught by Johnson (col. 1, ll. 39-45).
8. Re claim 16, Barton teaches the envelope has a truncated cone shape and comprises a vortex angle that is identical along its entire length as illustrated in fig. 2.
9. Re claim 17, Barton teaches the widest vortex angle corresponding to the distal region, a smallest vortex angle corresponding to the proximal region, and one or more intermediate vortex angles corresponding to the central region.

10. Barton does not teach the envelope consists of several juxtaposed sections extending axially from one another and each of the section having a different vortex angle.

11. Johnson teaches the envelope consists of several juxtaposed sections extending axially from one another and each of the section having a different vortex angle as illustrated in figs. 3-4.

12. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Barton in view of Johnson in order to reduce the risk of stalling or locking up during manipulation or rotation of the file in a root canal as taught by Johnson (col. 2, ll. 48-50).

13. Re claim 18, Barton teaches an angle of the envelope relative to an axis of the instrument decreases progressively and regularly from the distal region to the proximal region as illustrated in fig. 2.

14. Re claim 24, Barton does not teach the distal region comprises a rounded tip.

15. Johnson teaches the distal region comprises a rounded tip as illustrated in fig. 3.

16. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Barton in view of Johnson in order to clean and shape the root canal as taught by Johnson (col. 4, ll. 41-42).

17. Re claim 25, Barton does not teach the central region is polygonal and comprises hollowed flutes with sharp cutting edges that are generally helical.

18. Johnson teaches the central region is polygonal and comprises hollowed flutes with sharp cutting edges that are generally helical as illustrated in fig. 6 (col. 4, ll. 2-6).

19. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Barton in view of Johnson in order to shape and enlarge the root canal by cutting away portions of the root canal walls as taught by Johnson (col. 4, ll. 9-11).

20. Claims 19-23 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton 1,198,690 in view of Johnson 6,074,209 further in view of Corneo CH 513, 640.

21. Re claim 19, Barton teaches a junction region between the proximal region and the end section as illustrated in fig. 2.

22. Barton in view of Johnson does not teach the junction region comprising a partial break calibrated to split apart when a predetermined drive torque is applied.

23. Corneo teaches the junction region comprising a partial break as illustrated in fig. 2.

24. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Barton in view of Johnson further in view of Corneo in order to use a tool to pull out the file once separated from the end section as taught by Corneo (par. 5, ll. 5-7).

25. Re claim 20, Barton in view of Johnson does not teach the partial break consists of a portion of reduced section.

26. Corneo teaches the partial break consists of a portion of reduced section as illustrated in fig. 2.

Art Unit: 4138

27. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Barton in view of Johnson further in view of Corneo in order to use a tool to pull out the file once separated from the end section as taught by Corneo (par. 5, ll. 5-7).

28. Re claim 21, Barton in view of Corneo does not teach the partial break consists of a modification in one or more of type and structure of material used for the instrument.

29. Corneo teaches the partial break consists of a modification in the structure of material as illustrated in fig. 2.

30. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Barton in view of Johnson further in view of Corneo in order to use a tool to pull out the file once separated from the end section as taught by Corneo (par. 5, ll. 5-7).

31. Re claim 22, Barton in view of Johnson does not teach the partial break consists of at least one peripheral notch formed in the junction region.

32. Corneo teaches the partial break consists of at least one peripheral notch formed in the junction region as illustrated in fig. 2.

33. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Barton in view of Johnson further in view of Corneo in order to use a tool to pull out the file once separated from the end section as taught by Corneo (par. 5, ll. 5-7).

34. Re claim 23, Barton in view of Johnson further in view of Corneo teach the limitations of claim 19 as discussed above. The predetermined drive torque corresponding to a torque at which the distal region of the instrument breaks is a matter of design choice. All instruments have a torque at which the instrument will break and it is a matter of design choice to determine the torque at which the applicant wants to break the instrument.

35. Re claim 27, Barton does not teach the central region comprises non-working section and working section, the non-working sections being smaller in section than the working sections.

36. Johnson teaches the central region comprises non-working section and working section, the non-working (col. 3, ll. 3-7).

37. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Barton in view of Johnson in order to sufficiently reduce frictional contact with canal walls while cutting efficiency is adequately maintained as taught by Johnson (col. 3, ll. 4-7).

38. Claims 26 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barton 1,198,690 in view of Johnson 6,074,209 further in view of Berlin 5,876,202.

39. Re claim 26, Barton does not teach the central region is polygonal and comprises flutes that are generally helical.

40. Johnson teaches the central region is polygonal and comprises flutes that are generally helical as illustrated in fig. 6 (col. 4, ll. 2-6).

Art Unit: 4138

41. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Barton in view of Johnson in order to shape and enlarge the root canal as taught by Johnson (col. 4, ll. 9-11).

42. Barton in view of Johnson does not teach the flutes with blunt edges.

43. Berlin teaches the flutes with blunt edges (col. 4, l. 21).

44. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Barton in view of Johnson further in view of Berlin in order to produce a non-cutting edge as taught by Berlin (col. 2, ll. 55-56).

45. Re claim 28, Barton in view of Johnson does not teach the central region comprises helical section and rectilinear sections.

46. Berlin teaches the central region comprises helical section and rectilinear sections as illustrated in fig. 4 (col. 4, ll. 27-28).

47. It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Barton in view of Johnson further in view of Berlin in order to reduce the screwing-in tendency of tool land thus avoiding blockages which are sources of tool breakage as taught by Berlin (col. 4, ll. 32-34).

Conclusion

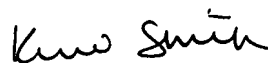
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Heidi M. Bashaw whose telephone number is 571-270-3081. The examiner can normally be reached on Mon-Fri (Alternate Fridays off) 7:30-5:00.

Art Unit: 4138

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ehud Gartenberg can be reached on 571-272-4828. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

HMB


KIMBERLY S. SMITH
PRIMARY EXAMINER

11/06/07